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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,609	01/11/2002	Lance FitzGerald	0308.65666	9485
24978	7590	09/17/2003		
GREER, BURNS & CRAIN 300 S WACKER DR 25TH FLOOR CHICAGO, IL 60606				EXAMINER CINTINS, IVARS C
				ART UNIT 1724 PAPER NUMBER

DATE MAILED: 09/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/044,609	FITZGERALD ET AL.	

  

<b>Examiner</b>	<b>Art Unit</b>	
Ivars C. Cintins	1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-22 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All
  - b) Some \*
  - c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                              | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                     | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: _____.                                   |

Art Unit: 1724

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. It appears essential that the recited system include both an element for detecting when the resin is saturated with hard water ions (e.g. a hardness sensor) operatively connected to the controller and an element for detecting when current demand for water is at or below a predetermined flow rate (e.g. a flow meter) operatively connected to the controller.

Claims 1-14 fail to positively recite both of these apparently essential elements; and therefore these claims are not enabled by the disclosure. It is noted that claims 2 and 9 recite a hardness sensor, and that claims 4 and 11 recite a flow meter, but none of the claims recite both a hardness sensor and a flow meter operatively connected to the controller.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 4-11 fail to recite the apparently essential hardness sensor and flow meter operatively connected to the controller, as explained above; and therefore, these claims fail to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeVale et al. (U.S. Patent No. 4,536,845). DeVale et al. discloses a water softener having a programmable controller, and further teaches (see Fig. 2) initiating regeneration when both: (1) water is not being used; and (2) recharging is required. This reference further teaches that the condition of the ion exchange resin bed in the softener (see col. 3, lines 1-3) and/or the volume of water used since the last recharging (see col. 2, lines 65-66) may be used to determine whether recharging is required. Accordingly, this reference discloses the claimed invention with the exception of the recited determination of the hard water ion content of the resin; and the recited hardness sensor (claims 2, 9 and 16), flow meter (claims 4, 11, 18 and 20), valves (claims 5 and 12), and cam (claim 19). However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the reference system with a conventional hardness sensor, since this hardness sensor is capable of providing an indication of the condition of the ion exchange resin in the softener. Similarly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the reference system with a conventional flow meter, since this flow meter is capable of providing an indication of whether water is being used (see col. 4, lines 6-7), and also providing an indication of the volume of water used since the last recharging. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide this reference system with conventional valves, in order to control the flow of liquid during the service and regeneration modes of operation. Similarly, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to provide this reference system with a rotating cam to terminate service flow, since such cams are typically used in multi-way valves to switch flow paths.

Le Dall (U.S. Patent Nos. 4,237,538 & 4,275,448), Davis et al. (U.S. Patent No. 4,385,357), Seal (U.S. Patent Nos. 4,426,294 & 4,469,602), Reinke (U.S. Patent No. 4,470,911), Avery et al. (U.S. Patent No. 5,022,994), Chili et al. (U.S. Patent No. 5,073,255) and Janke et al. (U.S. Patent No. 5,234,601) disclose similar water softener control systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (703) 308-3840. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Blaine Copenheaver, can be reached at (703) 308-1261.

The fax phone numbers for this art unit are: (703) 872-9311 for "Official" faxes after Final Rejection; (703) 872-9310 for all other "Official" faxes; and (703) 872-9492 for "Draft" and other "Unofficial" faxes.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

*Ivars Cintins*  
**Ivars C. Cintins**  
**Primary Examiner**  
**Art Unit 1724**

I. Cintins  
September 11, 2003